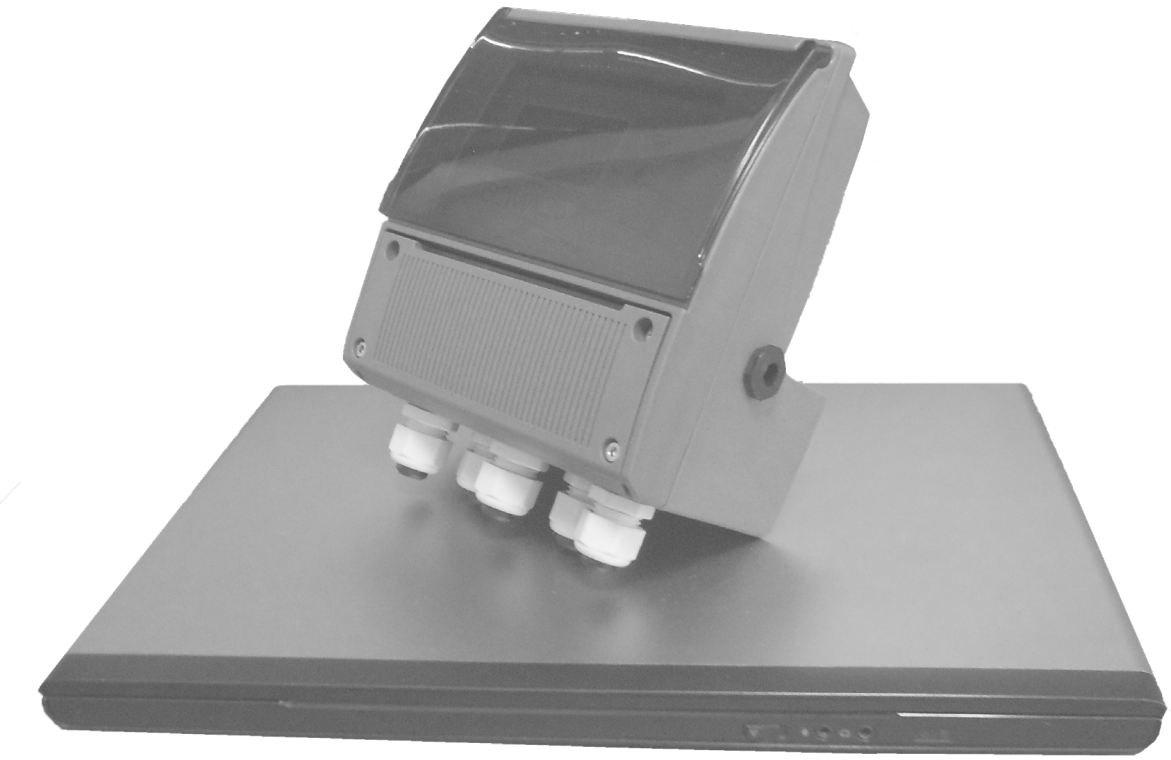
ISOMAG

The friendly magmeter

OPERATING AND INSTALLATION MANUAL
SOFTWARE

Mcp

Mnemonic Command Protocol



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INTRODUCTION

Mcp (mnemonic command protocol) is an application that works in real time with the connected device and It's used to control, to program and to manage a MV series converter.

The saved data can be managed and / or downloaded directly through Mcp interface.

If a converter is equipped with a GPRS or Wi-fi module, and you want to extract the sensor test data, you have to enable some options for the data transfer, on the converter.

The most important functionalities of Mcp interface are:

- ❑ Analysis and sensor data collection
- ❑ Managing of function to enable / disable in the converter
- ❑ Set, read and execute all functions by an alphanumeric string (Mcp command)
- ❑ Simulation of instrument display
- ❑ Color processing of the converter display
- ❑ Instrument data logger downloading
- ❑ View downloaded data

	Mcp Interface	Converter	Notes
Data converter settings	√	√	It's advisable to use the Mcp interface for an easier data entry
All functions settings	√	not avaiable	Not all functions are avaiable on the converter, it depends on converter model and user access level.
Show Mcp commands and display functions	√	only functions on physical display	---

SYMBOLS FOR THE PURPOSES OF SAFETY

ATTENTION

GENERAL NOTES

SOFTWARE TOOLS AN USER LICENSES AGREEMENT

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Good data processing procedure dictates that any program be thoroughly tested with non-critical data before relying on the program. The user must assume the entire risk of using the program. ANY LIABILITY OF THE SELLER WILL BE LIMITED EXCLUSIVELY TO PRODUCT REPLACEMENT.

FIRST START OF MCP

Requirements

- ❑ Operating system Microsoft Windows 10®
- ❑ USB output from the PC type A
- ❑ System administrator rights are required to install the communication drivers.

The program must be downloaded only from authorized sites

Before connecting the converter to the pc, download Mcp software as the instructions described below

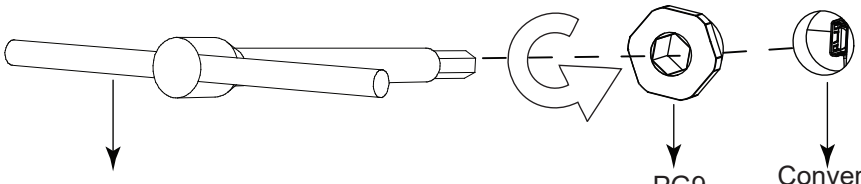
If the computer has an internet connection, the system checks for an update when the program is started. Press "Yes" to update it to the latest features.

After the automatic update, connect the device with the USB mini B cable.
If the driver is not installed after starting the Mcp software, follow the driver installation procedure on pag. 9

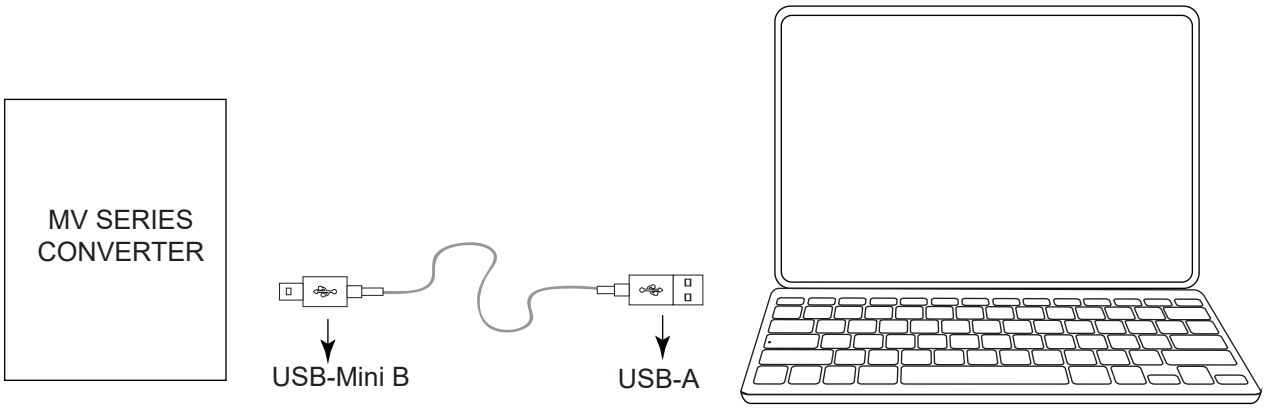
Don't rename the Mcp.exe file after the first run to avoid conflicts on future software updates.

CONVERTER CONNECTION TO PC

Connect your computer to remove the PG9 cap as follows



Connection to the computer via USB cable

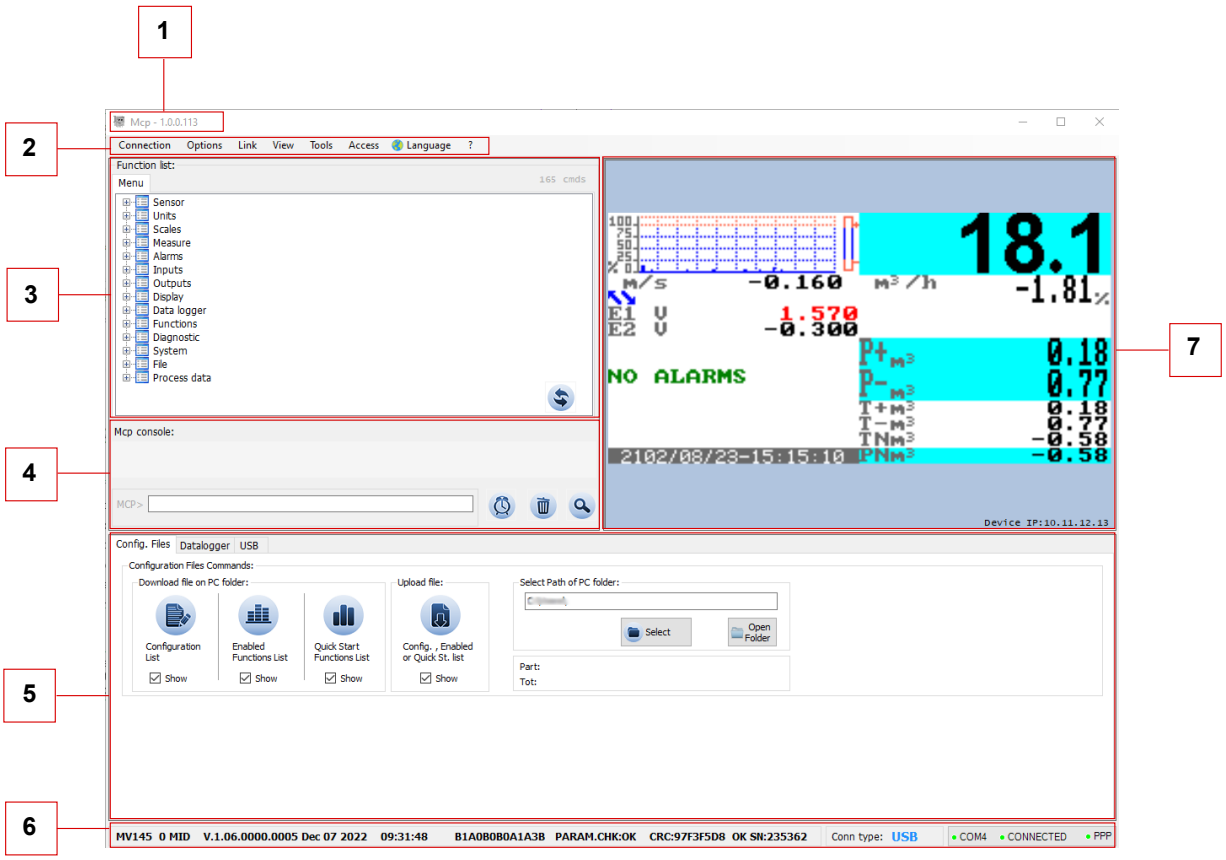


The USB-B cable and related equipment (hex key) for the management of the converter connected to a computer, are not provided by the manufacturer of the converter MV series.
Once the connection has been established, start the program clicking on this icon Mcp.exe

ATTENTION: Before starting the program be sure that the converter is connected to a power supply as per the data plate.

MCP INTERFACE

Following there is a description of the interface areas and the Mcp software functions. Descriptions relating to specific functions of the various converters will be reported in the operating manual of the converter.



- ❑ AREA 1: Information on Mcp software version
- ❑ AREA 2: Mcp Management menu.
- ❑ AREA 3: Converter function list
- ❑ AREA 4: Mcp console; Command text editor.
- ❑ AREA 5: File and configuration settings and tabs for datalogger download.
- ❑ AREA 6: General informations about the connected converter.
- ❑ AREA 7: Virtual screen for displaying data.

ATTENTION: If the message "DISCONNECTED" appears in box 7, it means that it is not connected to any device, and therefore is waiting for a connection with a converter.

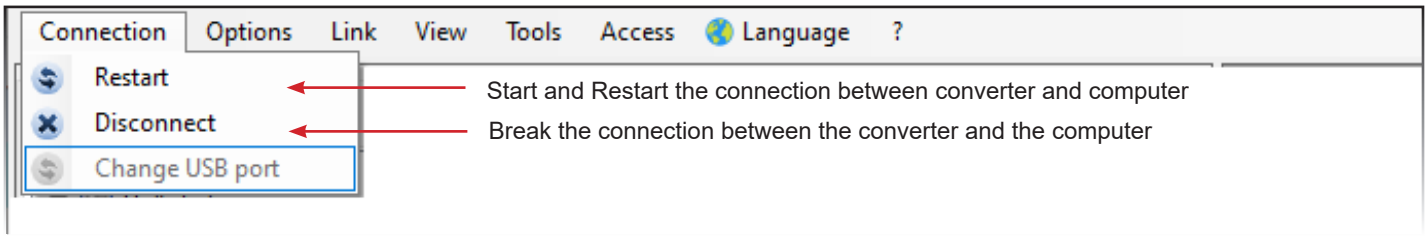
AREA 1

This section displays the Mcp software version installed on your computer.

AREA 2

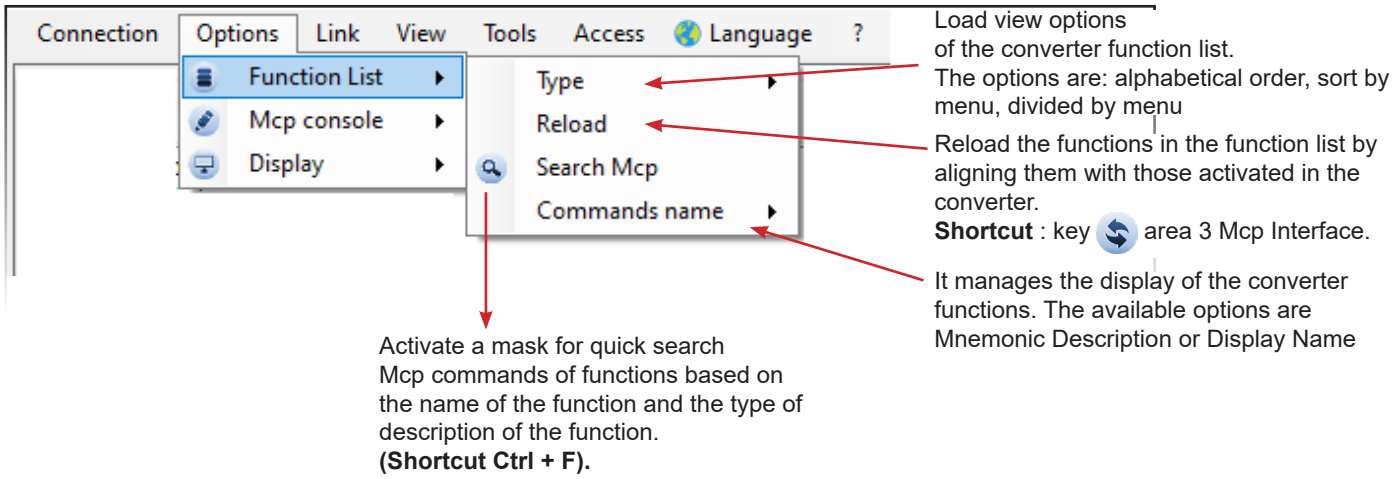
In this section there are 6 management menus of the Mcp software: Connection / Option /Link/ View / Tools / Access / Language/? . Below they are described in order.

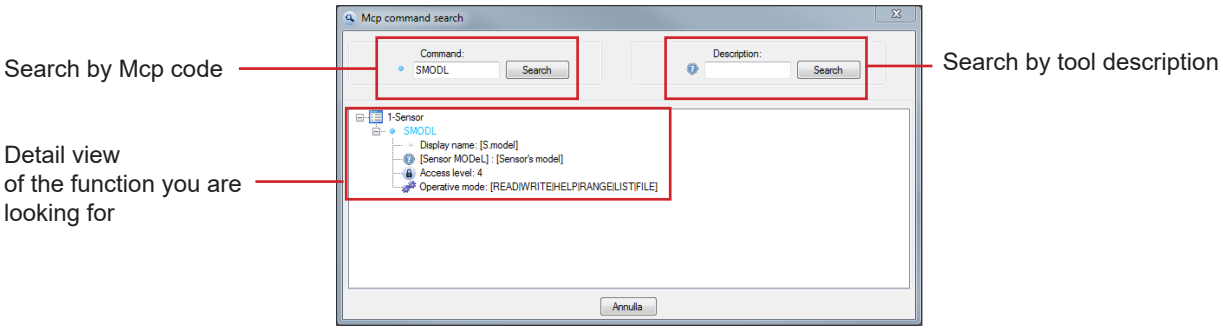
Connection



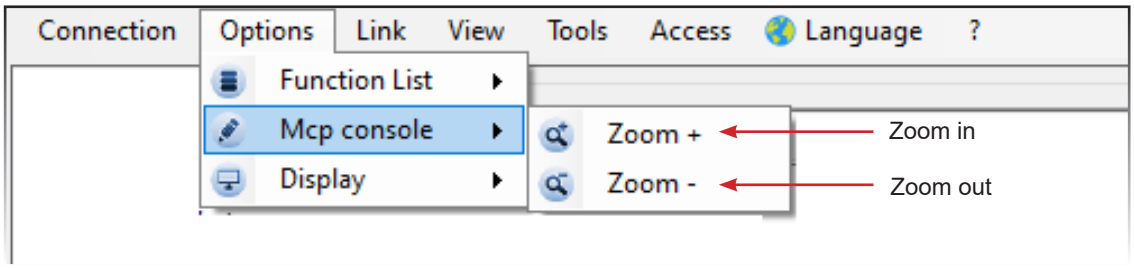
Options

Function list: Contains the options for managing the functions of the connected converter.

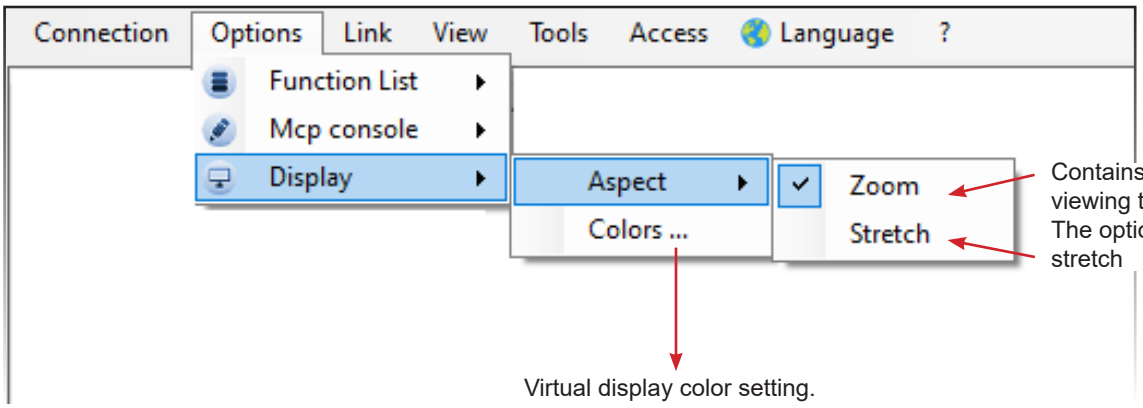


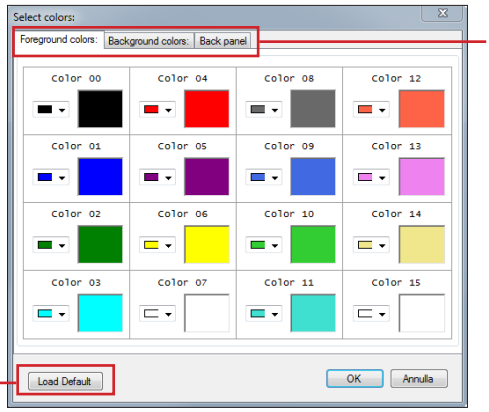


- **Mcp console:** Contains the options for enlarging and reducing the text visible in the Mcp console (Area 4 of the Mcp interface)



- **Display:** Contains the options for managing the virtual display (Area 7 of the Mcp interface)

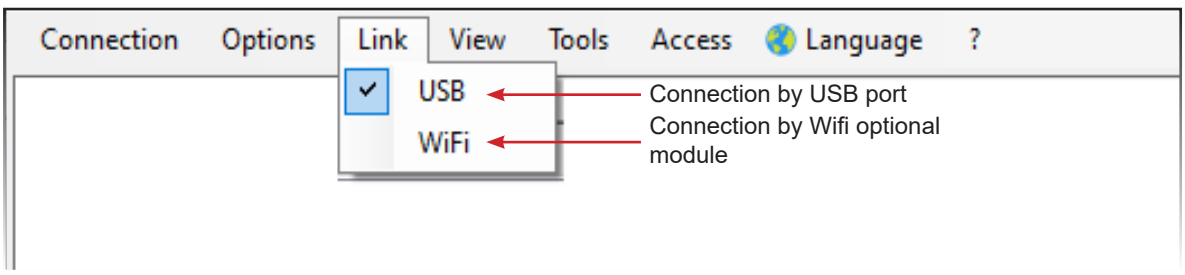




Foreground colors: foreground colors setting
Background colors: background colors setting
Back panel: color setting of the rear panel

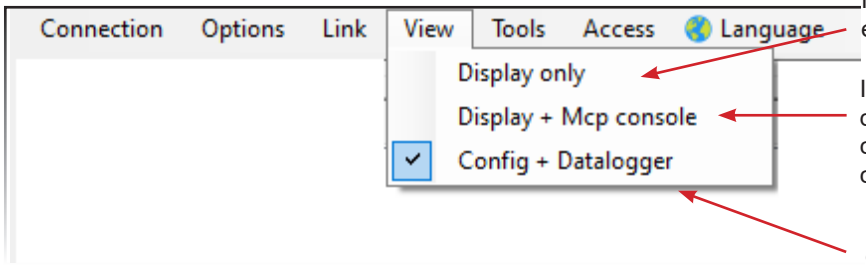
Command to restore the colors to the factory conditions

- **Link:**



N.B: for connection via the Wi-Fi module, consult the dedicated manual

View



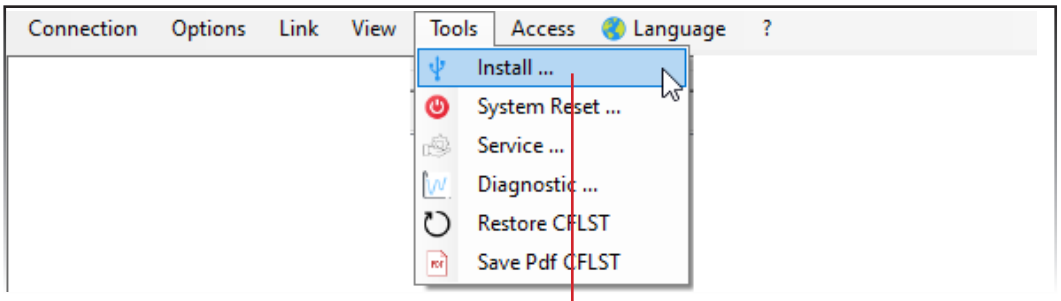
It only displays the virtual display in the entire screen of the Mcp software

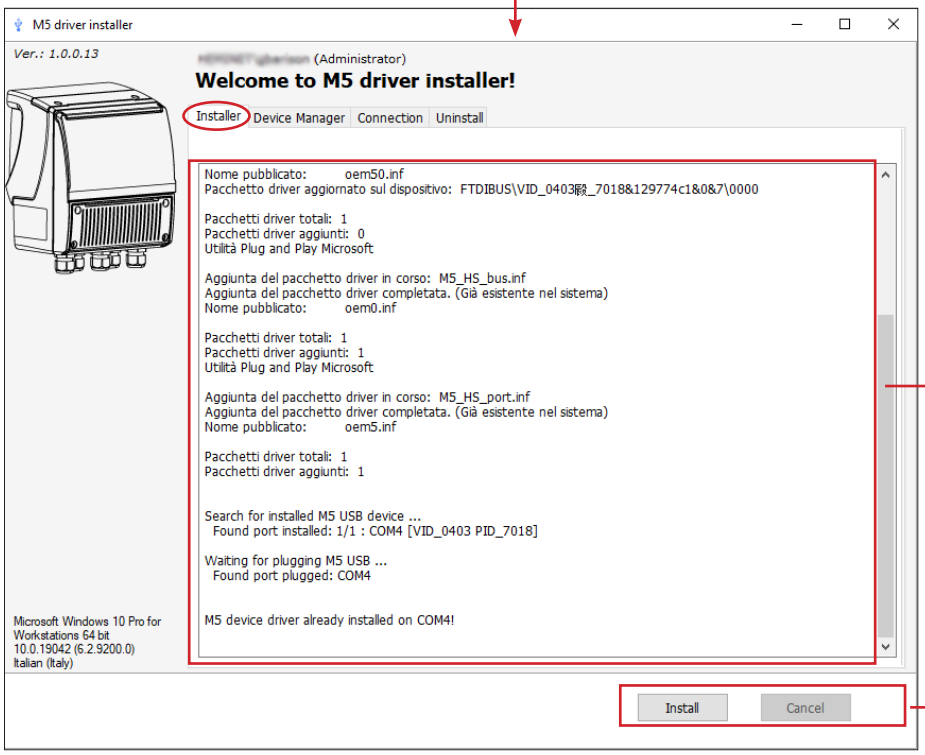
It display in the Mcp interface the virtual display, the screen containing the list of converter functions (area 3) and the Mcp console (area 4)

It display in the Mcp interface the virtual display, lhe screen containing the list of converter functions (area 3) and the Mcp console (area 4) and the file configuration tabs with the settings for the datalogger download.

Tools

❑ **Install:**

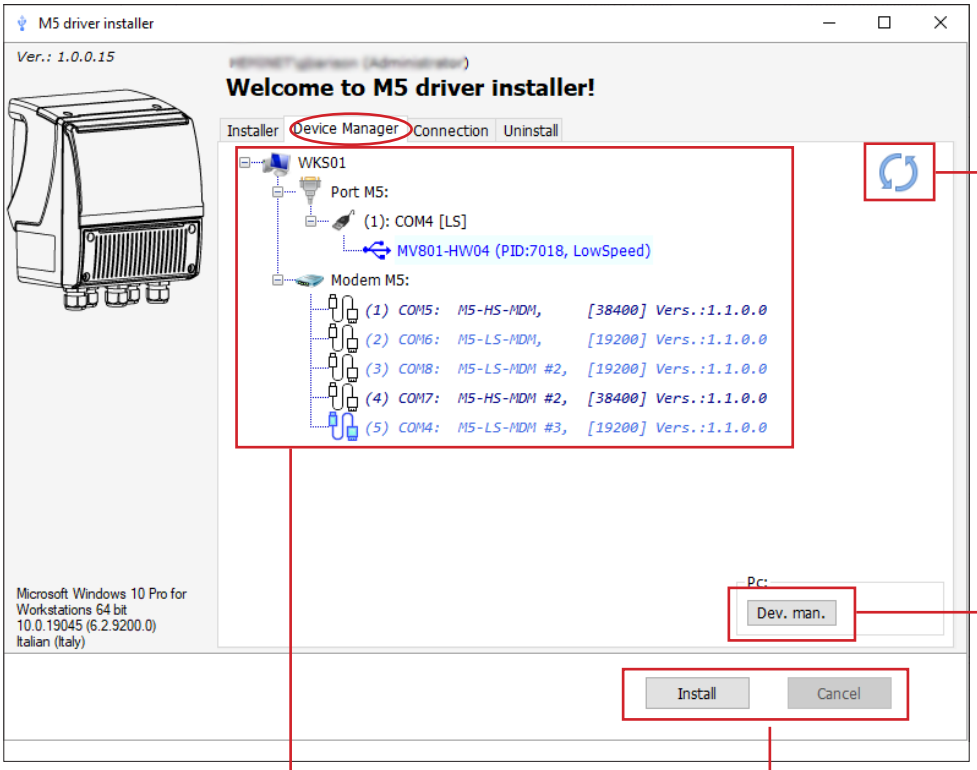




Area that shows the installation progress

Keys to start or stop the installation of device drivers

ATTENTION: To start the installation procedure, you must start the program as an administrator.
If the program was not sent as administrator, the program will restart automatically and will runs as administrator



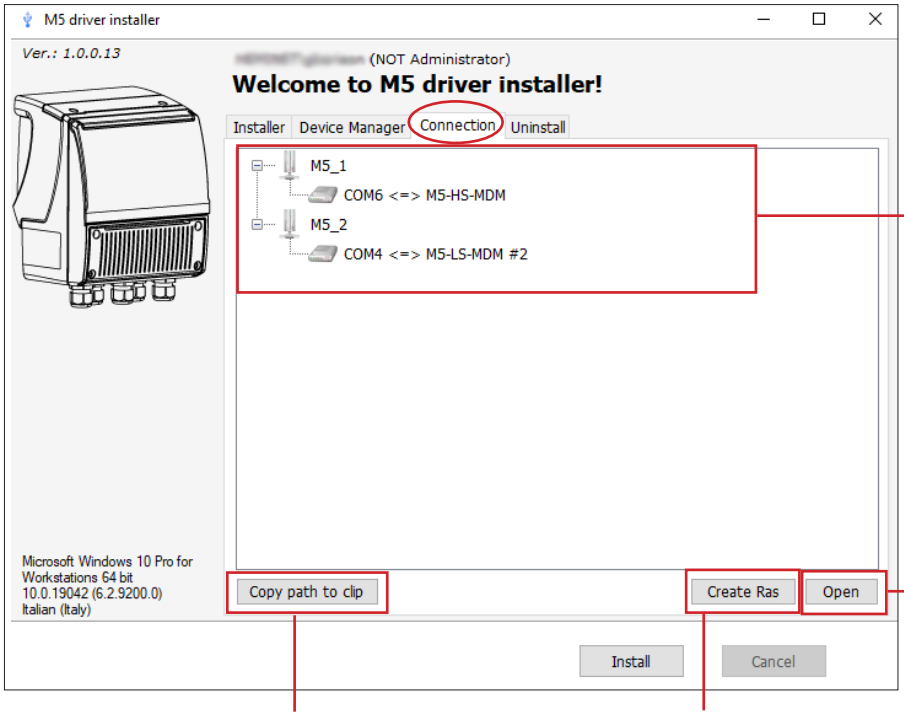
Refresh button: read all converters connected to the USB ports

Key that opens the device manager. From these screens you can also uninstall the drivers

Window that allows the management of the single communication ports and modems of the system.

Keys to start or stop the installation of device drivers

Close the window once the installation procedure of the various items of the Install process has been completed. Restart the operating system after installing the device drivers.

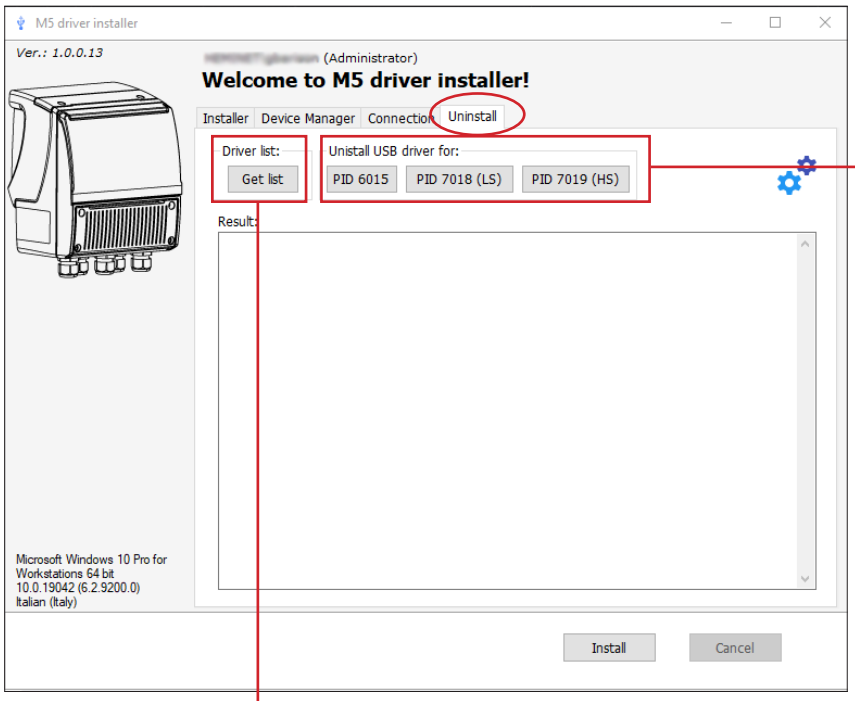


Window that allows the management of the ras connections installed M5_x (x = 1,2,3 etc.) on the relative M5 modem and com port

Button that opens the Ras connections created **(reserved to service)**

Button that allows you to copy the path of the Ras directory to the clipboard **(reserved for the service)**

Button that recreates Ras connections **(reserved to service)**

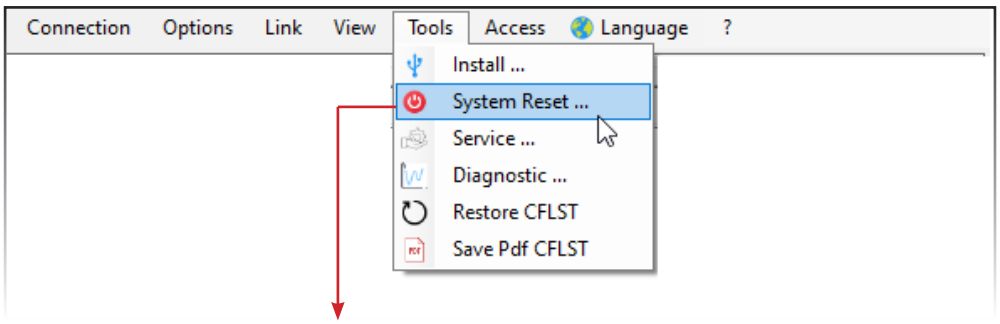


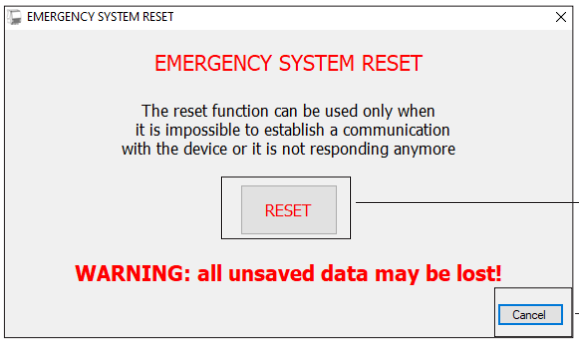
Buttons reserved for service

- ❑ PID 6015: Uninstall driver VID 0403, PID 6015 (Ftdi)
- ❑ PID 7018: Uninstall driver VID 0403, PID 7018 (M5 low speed)
- ❑ PID 7019: Uninstall driver VID 0403, PID 7019 (M5 high speed)

This button allows you to list the M5 drivers installed on the PC
(reserved for service)

❑ **System Reset:** It permits an instantaneous reset of the converter board.





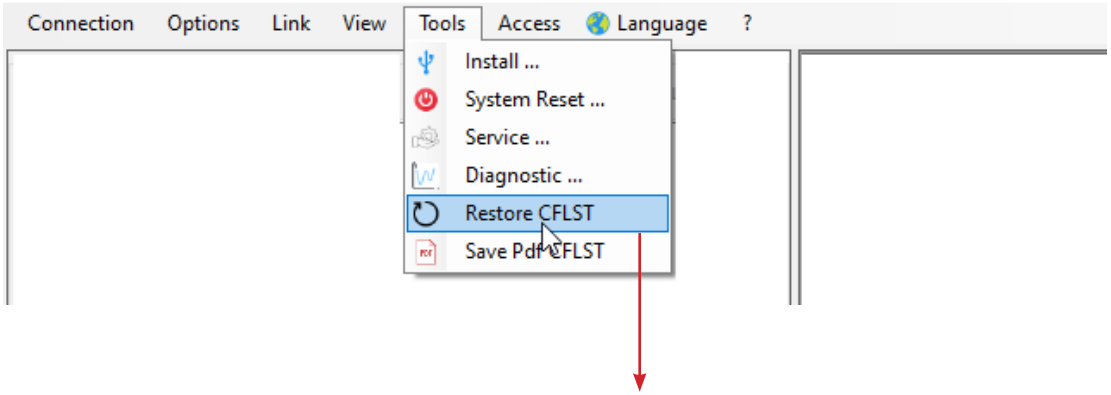
Click here to reset the converter board

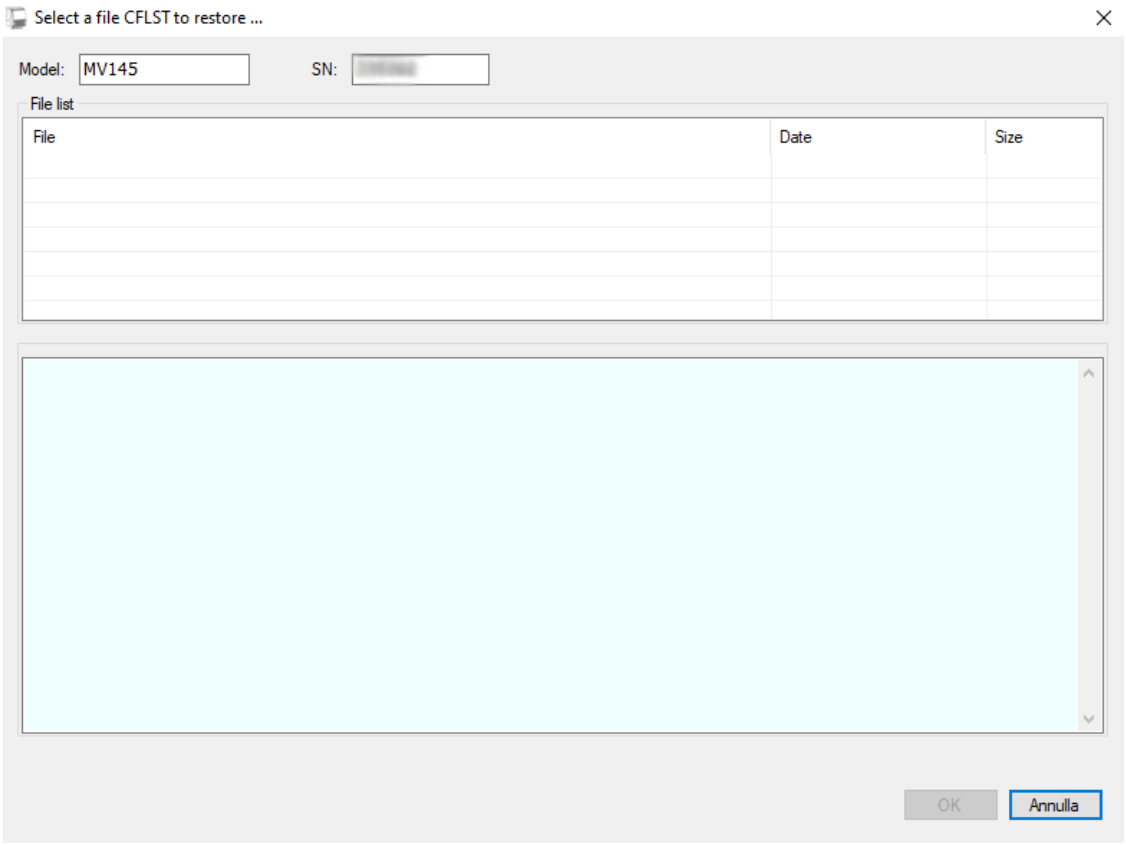
Click here to exit from this window

❑ **Service:** reserved to Service;

❑ **Diagnostic:** reserved to Service.

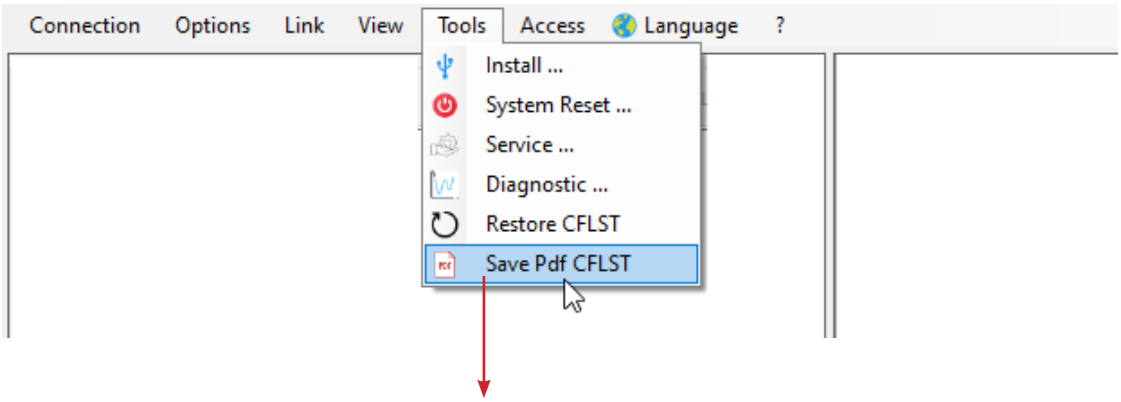
❑ **Restore CFLST:**

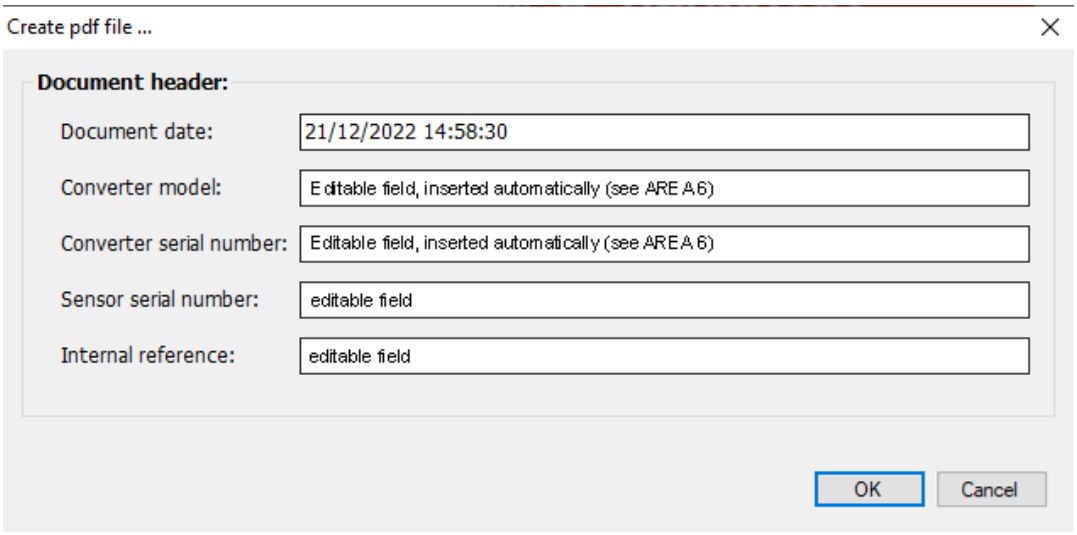




N.B: If a CFLST has never been loaded to the converter, the list is empty.
Whenever a parameter is changed by sending a cflst file (with drag & drop), first the CFLST is saved

❑ **Save Pdf CFLST:**





Below an example of CFLST PDF .

Document date: 21/12/2022 15:34:34
Converter model: MV210 1 V.1.04.0005.0004 Dec 01 2021 12:37:57 B0B1B0A0A0A
Converter serial number: 234003
Sensor serial number: Ser. Num.
Internal reference: Internal ref.

Sensore

Modello=4
Lining=0:'UNSPEC.'
Tipo=0:'F.BORE'
U.mis.=0:'METRICHE'
Diam.=6:'32(mm)'
KA=+1.7934
KA-=1.0000
KZ=+319
KD=-307
CoeFFicient KJ=+0
Posizione=0
KP dinamico=0:'OFF'
Ki=+1.0000
Kp=+1.0000
KC=0.97690
C.ecc.=80.0:'(mA)'
Reg.PB=5
Reg.DK=15
Freq.=2:'10(Hz)'
Test t.vuoto=1:'ON'
R max=50:'(kohm)'
P.elettr.=2:'MED'
Preamplif.=0:'OFF'
L.cavo=0:'(m)'
Rit.all.mis=20
Sensor Coils TiMe A=0.00:'(ms)'
Sensor Coils TiMe B=0.00:'(ms)'
Sensor Coils RESistance=0.0:'(ohm)'
Sensor E1 Reference Resistance=0:'(kohm)'
Sensor E2 Reference Resistance=0:'(kohm)'
Sensor Coils Temperature ReFerence=0:'(°C)'
Verif.sens.=0:'OFF'
KL=+0,+0,+0,+0,+0,+0,+0,+0,+0,+0,+0,+0,+0,+0,+0,+0
SET TK values=+0.0,+0.0,+0.0,+0.0,+0.0,+0.0,+0.0,+0.0,+0.0,+0.0,+0.0,+0.0,+0.0,+0.0,+0.0,+0.0

Unita'misura

Diam.=0:'mm'
L.cavo=0:'m'
U.m.por=0:'METRICHE'
U.m.T+=0:'METRICHE'
U.m.T+=6:'(m3)'
N.d.T+=4
U.m.P+=0:'METRICHE'
U.m.P+=6:'(m3)'
N.d.P+=4
U.m.T-=0:'METRICHE'
U.m.T-=6:'(m3)'
N.d.T-=4
U.m.P-=0:'METRICHE'
U.m.P-=6:'(m3)'
N.d.P-=4
U.m.temp.=0:'°C'
U.m.massa=0:'OFF'
Ps=1.0000:'(kg/dm3)'

Scale

FS1=26:'m3/h',25.000000
FS2=26:'m3/h',26.000000

Misura

Filtro=5:'2.0s'
Cut-off=0.5:'(%)'
Measure Filter Cut-off Threshold 2=0.10:'(%)'
Ver.Calibr=0:'OFF'
Autorange=0:'OFF'
Alta imm.=0:'OFF'
DYNamic Sample Analysis=1:'ON'
DYNamic Sample Time=1.0:'(m)'
DYNamic Range Threshold=2:'0.20%'

Allarmi

Max+=0.000:'(m3/h)'
Max-=0.000:'(m3/h)'
Min+=0.000:'(m3/h)'
Min-=0.000:'(m3/h)'
Ist.=0.118:'(m3/h)'
V.all.mA=10:'(%)'

Ingressi

reset T+=0:'OFF'
reset P+=0:'OFF'
reset T-=0:'OFF'
reset P-=0:'OFF'
Blocco cont=1:'ON'
Azzer.mis.=0:'OFF'
Calibrazione=0:'OFF'
Cambio scala=0:'OFF'

Uscite

Usc.mA1=1:'4',1:'22',3:'+/-'
A1S=26:'m3/h',25.000000

Display

Lingua=7:'IT'
Contrasto=4
T.visual.=60:'(s)'
F.display=2:'5(Hz)'
Fn.Disp.=2
Blocco f.v.=0:'OFF'
Tot.parz.=0:'OFF'
Tot.neg.=0:'OFF'
Tot.netti=0:'OFF'
Quick start=0:'OFF'

Diagnostica

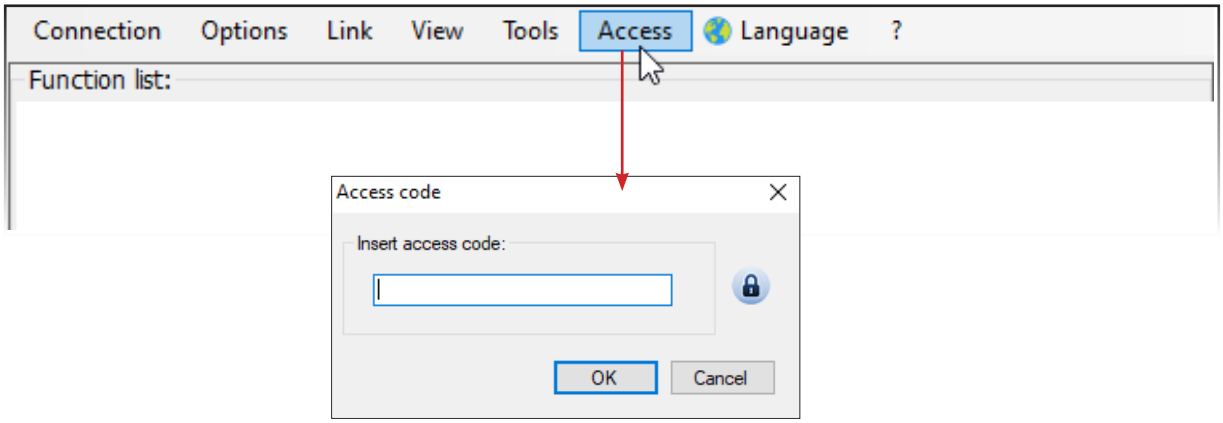
WT=:'0078:06:30:10'

Sistema

Unique Identity KEY=53B5230BB606E62A80983098D824D64F
HardWare SET=846D8449962404D5D7E828A4971E81E3
HardWare CODe=DA7379301E94E7CF3D206CF08EAD4FC1
FirmWare CRC=00000000
Cod.L1=FA9F68823DF764CD7BADE1EBA431F8EB
Cod.L2=A3717E91BEFFA2C7EA643314AD14F301
Cod.L3=4BD2388580F6D44E8F8D95615C3DBD12
Cod.L4=C424765F6CDF4D5AF76DE0924845E2D3
Cod.L5=58BEAE39E1B67CB5D4DE46B86BAB8AC9
Cod.L6=
Accesso rist=0:'OFF'
Ind.IP dispos.=010.011.012.013
Ind.IP client=010.011.012.012
Mask rete=255.255.255.254
KT=0.97934
KS=1.00000
KR=1.00000
ISOCalmaster Reference=0.00000
CALibration eXecution status Memory=1:'ON'
DAC1 4mA=2571
DAC1 20mA=11248
Volume Totalizer Total Positive Set=0
Volume Totalizer Partial Positive Set=0
Volume Totalizer Total Negative Set=0
Volume Totalizer Partial Negative Set=0
Volume Total Positive Overflow Set=0
Volume Partial Positive Overflow Set=0
Volume Total Negative Overflow Set=0
Volume Partial Negative Overflow Set=0
CPU MaX.recorded temperature=+50:'(°C)'
CPU MiN.recorded temperature=+10:'(°C)'
Board T1 MaX.recorded temperature=+48:'(°C)'

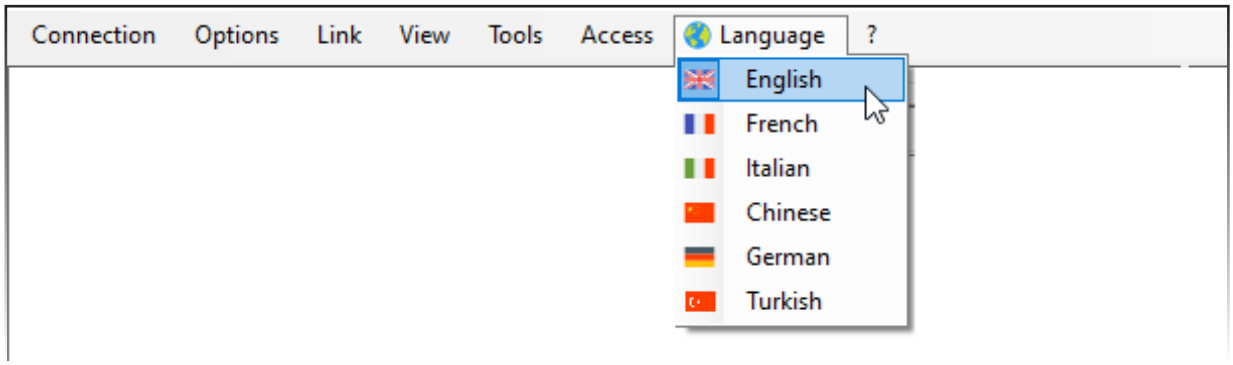
Board T1 MiN.recorded temperat
ure= +8:'(°C)'
Board T2 MaX.recorded temperat
ure= +50:'(°C)'
Board T2 MiN.recorded temperat
ure= +8:'(°C)'
Calibration OFset Register 0= -
29690
Calibration GAin Register 0= 1.
00310
Calibration GAin Register 1= 1.
00350
Calibration GAin Register 2= 1.
00693
Calibration GAin Register 3= 1.
00759
Calibration GAin Register C= 0.
98241

Access



It opens the window in which it's possible enter the access code provided by the manufacturer which allows you to activate various functions of the converter. Access code or level code therefore regulates the presence or absence (from access level 2 and above) of some functions in the list of functions. **Shortcut Ctrl+A.**

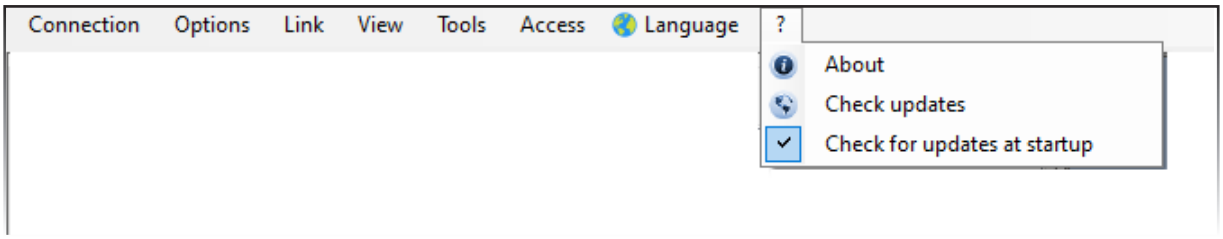
Language



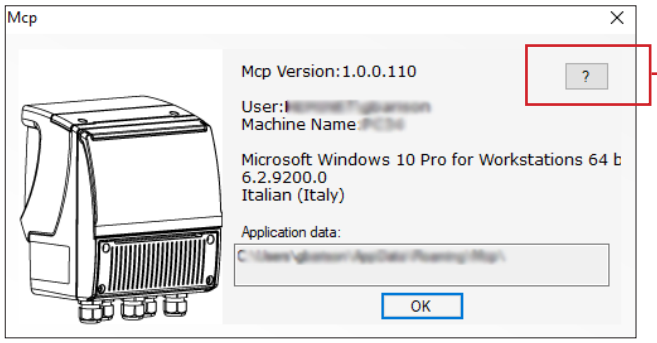
Through this menu item you can choose the language of the software interface

ATTENTION! This option don't change the converter language, but only the software one.
To change the converter language see the converter manual.

?



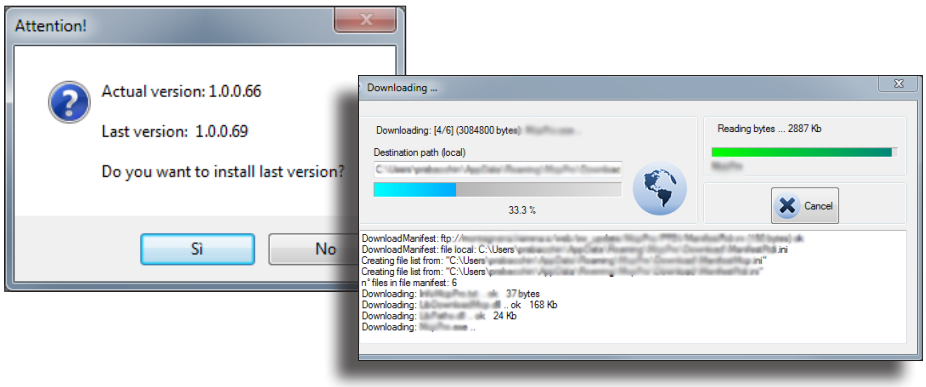
- **About:** This option opens a window where you see the Mcp software version, user type, operating system name computers, language used and the location where the Mcp program installed.



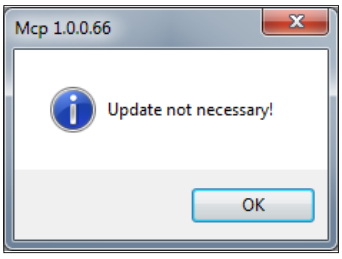
Clicking on this button It opens a window that describes the changes applied for each software update

- **Check Update:** Check if updates are available;

If an update is availble a popup appears and you can start the update:



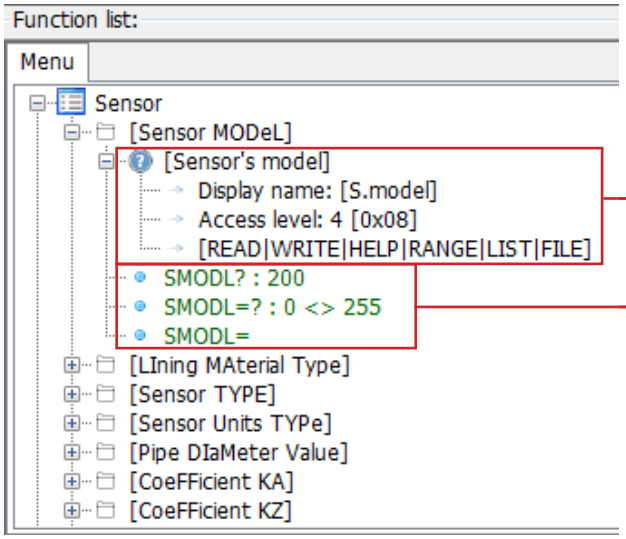
If no update are avaiable, a popup will advise you that the program is upgraded to the last version:



- **Check for updates at startup:** Clicking on this option you can enable the automatic research of updates at everyprogram start

AREA 3

The Mcp software in Section 3 shows the list of functions available for the connected drive. This list has a tree structure in which there are different contents for each function. The following image explains this structure.



INFORMATION ABOUT THE SELECTED COMMAND

- ❑ **Display Name:** Name of the function shown on the display
- ❑ **Access Level:** Access level number
- ❑ **[__]:** Description of the interactions the command can undergo

COMMAND OPTIONS PROVIDED FOR EACH FUNCTION

Syntax of Mcp associated commands to device functions and ENABLE in accordance with the level of access that you possess the system.

- ❑ **[COMMAND Mcp] ?:** Mcp command followed by "?" Asks the same of the command (read status of the command).
- ❑ **[COMMAND Mcp]=?:** Mcp command followed by "=?" Shows the range of values in which a command can be set. (Help command).
- ❑ **[COMMAND Mcp] =:** Mcp command followed by the "=" requires the entry of a value from the allowable value in the command itself. (Command set).
- ❑ **[COMMAND Mcp]:** without operator, instantaneous executable function activated by selecting Mcp command followed by ENTER on KEYBOARD

AREA 4

The editor for entering the Mcp commands has a line in which, after sending the command, it shows the result of the command executed. The following image explains this structure.

Mcp CONSOLE EDITED COMMANDS AREA
Area dedicated to display the commands entered ande the related results.

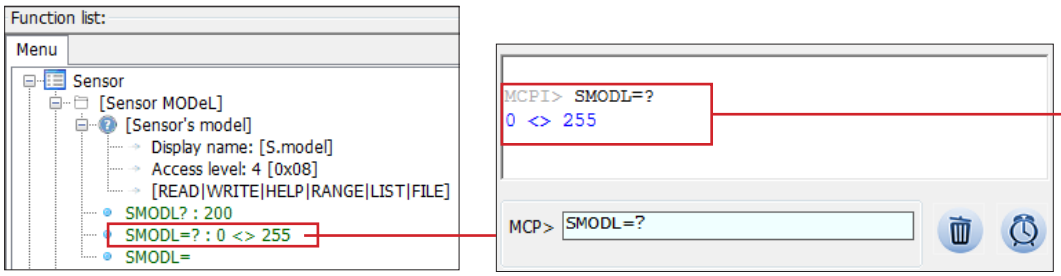
BUTTON TO SEARCH COMMANDS
It opens the Mcp command search window (cntrl+F). See option menu on pag. 7

BUTTON TO DELETE EDITED CONTENT
- ❑ This button delete what has been written in the edited Mcp Console command area.

BUTTON FOR ADJUSTING SYSTEM DATE AND TIME
- ❑ Button that adjusts and updates the date and time with that of the operating system in which the Mcp program was installed. This Key is present only if the connected converter has the Micro SD enabled.

COMMAND INSERTION LINE
- ❑ Section in which the Mcp commands of the functions are edited.

Example of starting an Mcp command using a text editor



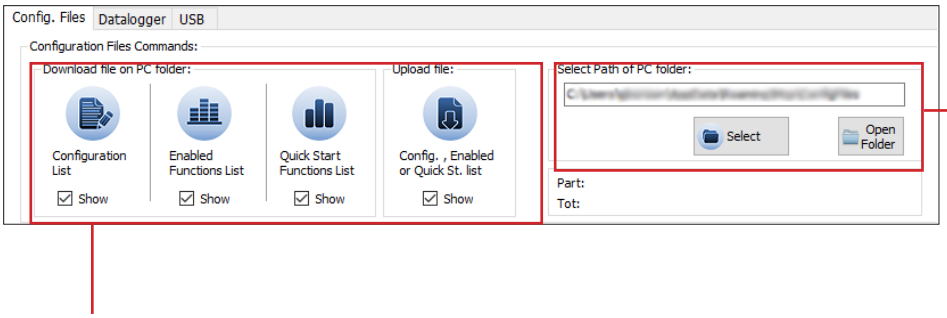
After entering the command, the result, the status or the range of values is displayed according to what has been requested.

- ❑ The command can be edited by writing it from the keyboard or by double clicking on the name of the desired command from the function list.
- ❑ By pressing enter on the keyboard, the command will be execute.

AREA 5

This area contains the keys for activating, disabling and displaying the converter functions and managing the relative data collection of the functions (data logger).

File Configuration

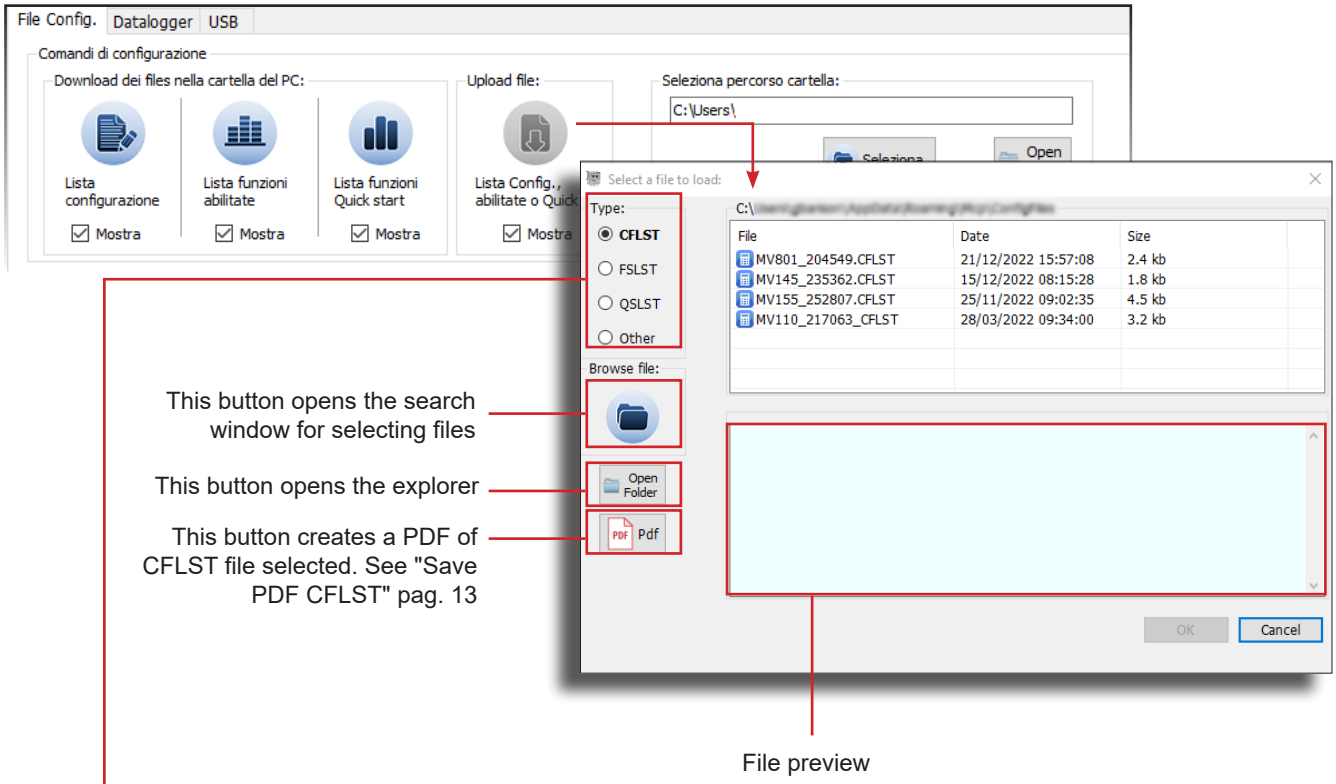


Keys to select the folder where the function configuration files will be saved. You can click on the "Select" button, or the "open folder" button to open the explorer.

Buttons decriptions:

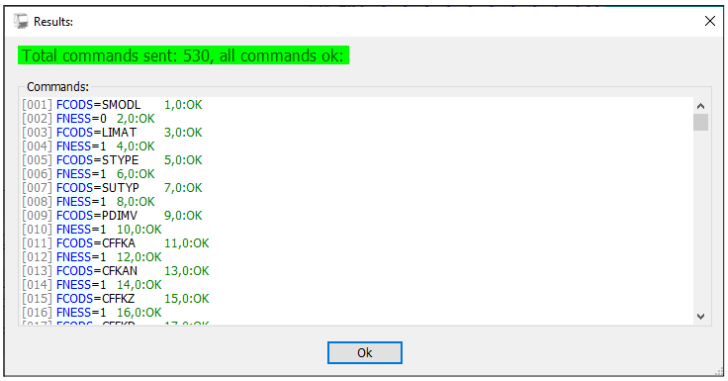
- ❑ **Configuration list**
  Save a .txt file showing the status of the active functions on the connected converter. The file will be opened automatically after saving if flagged on “show”.
- ❑ **Enabled function list**
  Save a .txt file that contains the information (description, menu, etc.) of the active functions of the converter. If the flag on show is present, a window will be displayed showing the active functions of the converter by reading these data from the saved .txt file.
- ❑ **Quick Start function list**
  Saves a .txt file containing the information (description, menu, etc.) of the active functions that are displayed and not displayed in the quick start menu. If the flag on show is present, a window will be displayed showing the active functions of the converter by reading these data from the saved .txt file.
- ❑ **Config., enabled or Quick St.list**
  This key allows you to load the previously saved command configuration files. To load a configuration file follow the procedure below:

Press the “Config. Enable ” key and select the previously saved .txt file relating to the configuration to be loaded.



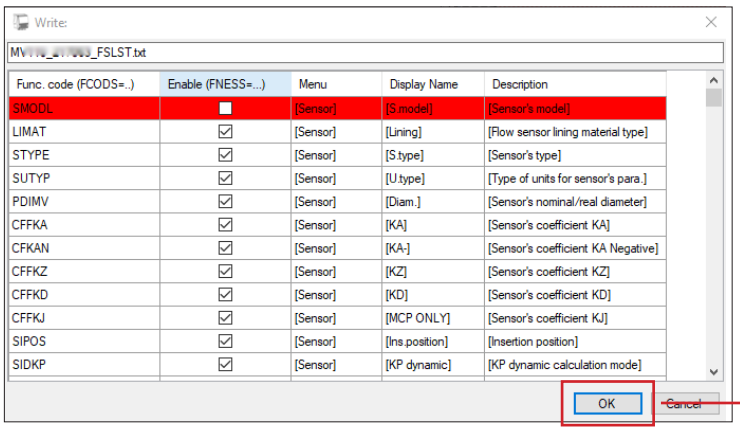
Buttons decriptions:

- **CFLST:** By selecting this option you can select a configuration list to load. The file must have a .txt extension. Once the file has been selected, click on the "ok" button to start the upload. At the end of the process, a window opens and the upload will be notified. Also any errors will be reported.



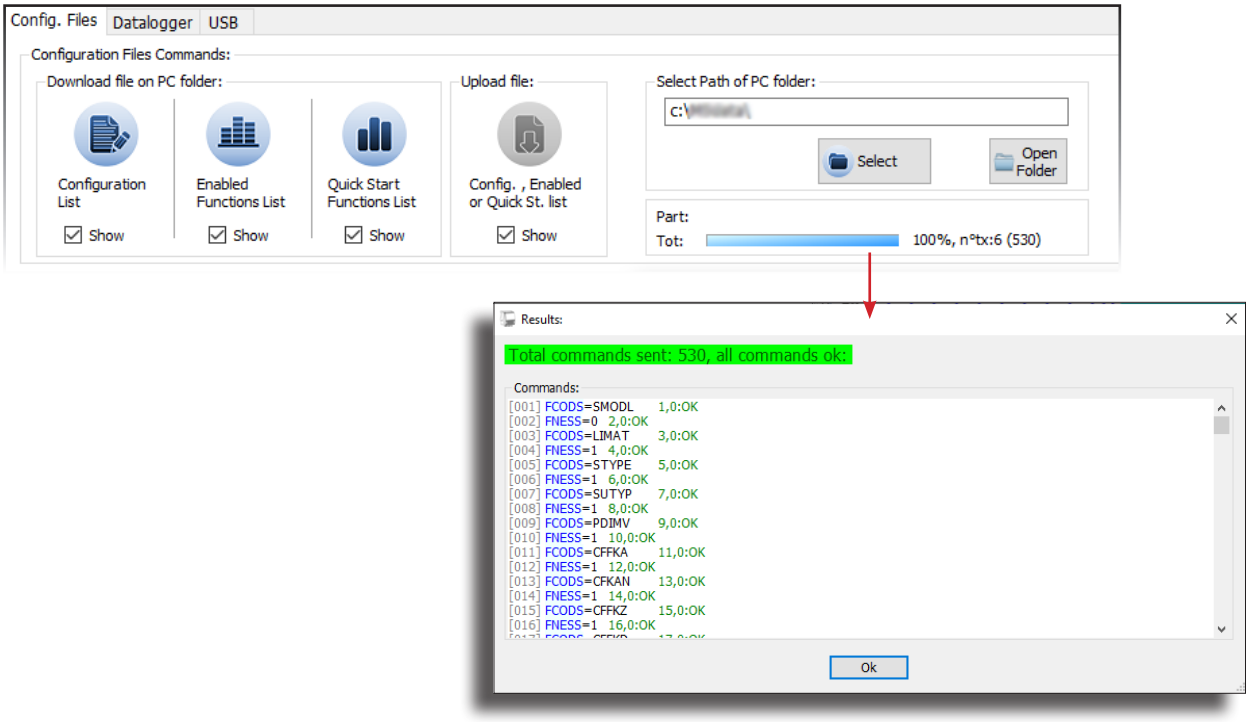
N.B: THE PROCESS FOR THE FSLST AND QSLST OPTIONS IS THE SAME, THE TWO OPTIONS ARE THEREFORE ILLUSTRATED TOGETHER ON THE NEXT PAGE.

- **FSLST:** By selecting this option you can select a list of enabled functions to load. The file must have a .txt extension. Once the file has been selected, click on the "ok" button to open a window that allows you to choose the functions enabled on the converter. Functions that are not enabled are highlighted in red.
- **QSLST:** By selecting this option you can select a list of functions enabled in the quick start to be loaded. The file must have a .txt extension. Once the file has been selected, click on the ok button to open a window that allows you to choose the functions enabled in the quick start. Functions that are not enabled are highlighted in red.



Once the configuration is complete, click on "ok" button

In the main page is shown the progress of the upload, at the end of the process a screen opens, confirms the upload and highlights any errors.



- **Other:** Allows you to choose any file, the system recognizes the final code (e.g. CFLST) and opens the relative window.

DATA LOGGER SET

In this section you can set the values for the download of the loggers activated in the converter and execute it.

Buttons decriptions:
Data source
Events: Save file system events (Example F-RAM hardware data [WORKING AREA] [SUCCESSFULLY LOADED])
Datalogger: Saves the loggers enabled in the converter (see the relevant converter manual).
Sensor Verify: Saves the sensor verification activity data.
Generic file: Save a specific file contained in the SD card.

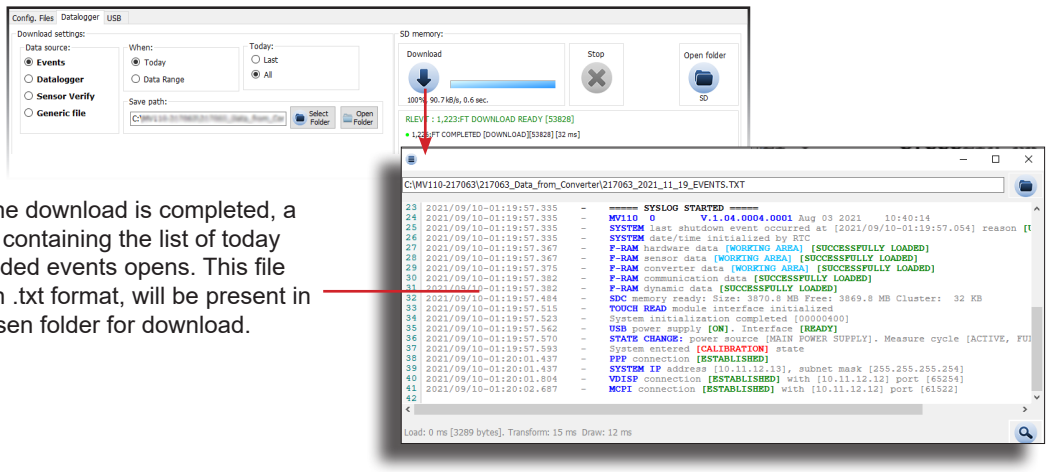
When (reference period for downloading data)
Today: This option permits the download of the current day files
Data range: this option allows you to select the download period

Today (divides today's day into two categories for download)
Last: This option allows you to download the last downloaded files of the current day
All: This option allows you to download the entire current day of the file

Save path: This option allows you to save the files in the desired folder on your PC

Example: Events Download

To download all the events of the current day in a specific folder, set the following parameters:
Data source: Events
When: Today
Today: All
Save path: C:/.....
The parameters are set to click the Download button.



When the download is completed, a window containing the list of today downoaded events opens. This file saved in .txt format, will be present in the chosen folder for download.

Example: Download Data Logger

Notes: It's recommended that date and time be synchronized between the converter and the PC in order to correctly read the saved data and download them.

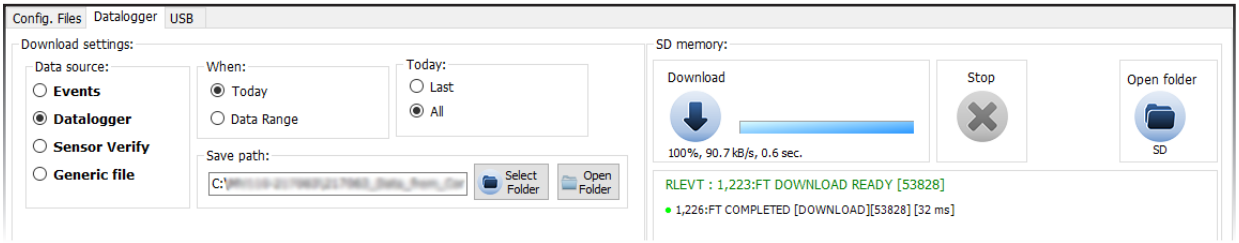
To download all the loggers of the day to a specific folder, set the following parameters as follows

Data source: Datalogger

When: Today

Today: All

Save path: C: / ....



Display of downloaded files with the download data logger setting enabled.

Note: The fields are fixed position, regardless of whether the previous fields are active or not. Inactive fields are empty (they are delimited by the separator, but contain no data).

N 2	1		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
		N.RECORD		DATE	HOURS	U.M.	T+	U.M.	P+	U.M.	T-	U.M.	P-	U.M.	TN	U.M.	PN	U.M.	FLOWRATE	U.M.	FLOWRATE %	U.M.	N.ACTIVE ALLARM
		n°		dd/mm/yy	00:00:00	dm3	0	dm3	0	dm3	0	dm3	0	dm3	0	dm3	0	dm3/s	0	%	0	AL	0

N°Record. View progressively the number of registered records.
Data. The recording date viewing for each record.
Hours. Time recording viewing for each record.
Total positive totalizer value. Form Fields when the send flag is active on the totalizer T+.
Partial positive totalizer value. Form Fields when the send flag is active on the totalizer P-.
Total negative totalizer value. Form Fields when the send flag is active on the totalizer T-.
Partial negative totalizer value. Form Fields when the send flag is active on the totalizer P-.
Total net totalizer value. Form Fields when the send flag is active on the totalizer TN.
Partial net totalizer value. Form Fields when the send flag is active on the totalizer PN
Flow rate. Form Fields present when the send flag is on the flow in units of measurement.
Flow rate %. Form fields present when the flag of alarm sending is active (only N ° of present total alarms)
N ° active alarms. Form fields present when the flag of alarm sending is active (only N ° of present total alarms)

	V	W	X	Y	Z	AA	AB	AC
	U.M.	CPTI	U.M.	T.SALITA A	U.M.	T.SALITA B	U.M.	CETS
Loss of current measured during insulation test. Available value when sending the sensor test data is active.	mA	0						
Time rise A. Available value when sending the sensor test data is active.			ms	0				
Time rise B. Available value when sending the sensor test data is active.					ms	0		
Sensor test error code. Available value when sending the sensor test data is active.							ERR	0

Visualisation of data logger files.

Access level 5 (diagnostic level) is required to download this type of file

	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI
	U.M.	E1 V	U.M.	E2 V	U.M.	VD (E1-E2)	U.M.	VC (E1+E2)/2	U.M.	CM LF NOISE	U.M.	DIF LF NOISE	U.M.	ADC LF NOISE	U.M.	ADC HF NOISE	U.M.	E1 R	U.M.	E2 R	U.M.	EXCITATION CUR	U.M.	R.COILS	U.M.	T.COILS	U.M.	T1	U.M.	T2	U.M.	T. CPU
Voltage measured on electrode E1. Form fields when it is on the flag of sending data on the input voltage (diagnostic value).	V	0																														
Voltage measured on electrode E2. Form fields when it is on the flag of sending data on the input voltage (diagnostic value).			V	-0.023																												
Differential voltage between the two electrodes. Form Fields when it is on the flag of sending data on the input voltage (diagnostic value)					V	0																										
Common mode voltage in the electrodes. Form fields when it is on the flag of sending data on the input voltage (diagnostic value).							V	0																								
Noise at low frequency measured on the electrodes. Form fields when it is on the flag of sending data on the input signal noise levels (diagnostic value).									V	0																						
Differential low frequency noise measured on the electrodes. Form fields when the flag is active sending of data on the input signal noise levels (diagnostic values).											V	0																				
Low-frequency noise measured input ADC. Form fields when the flag is active sending of data on the input signal noise levels (diagnostic values).													mV	0																		
High frequency noise measured input ADC. Form fields present when the flag is active sending of data on the input signal noise levels (diagnostic values).															mV	0																
Measured equivalent resistance on the electrode 1. Form fields when it is on the flag of sending data on the electrode resistance measurements (diagnostic values).																	kohm	0														
Measured equivalent resistance on the electrode 2. Form fields when it is on the flag of sending data on the electrode resistance measurements (diagnostic values).																			kohm	0												
Coils excitation current. Form fields when it is on the flag of sending data related to the sensor excitation circuit measures (diagnostic value)																					mA	0										
Measured resistance of the excitation circuit (coil + cable). Form fields when the data transmission flag is active relative to the sensor excitation circuit measures (diagnostic values).																							ohm	0								
Temperature measured on the sensor coils (indirect measurement). Form fields when the data transmission flag is active relative to the sensor excitation circuit measures (diagnostic values).																									°C	0						
Temperature T1 (sheet sensor 1). Form fields when the data transmission flag on board the internal temperature measurement is active (diagnostic values).																											°C	0				
Temperature T2 (sheet sensor 2). Form fields when the data transmission flag on board the internal temperature measurement is active (diagnostic values).																													°C	0		
CPU temperature. Form fields when the data on the card's internal power supply voltage measurements the send flag is ON (diagnostic value).																															°C	0

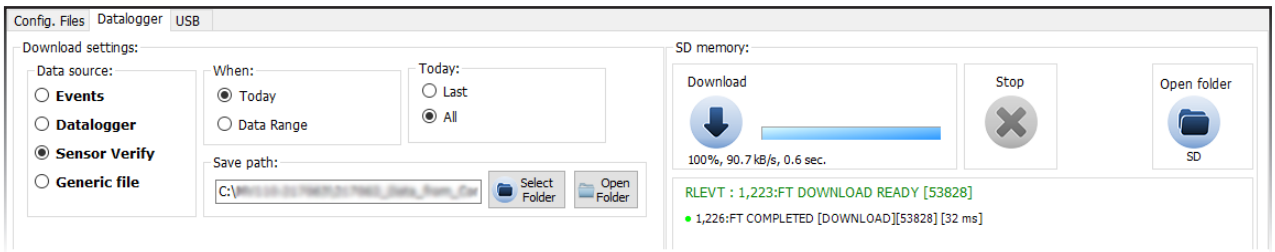
Primary power supply of CPU. Form fields when the data on the card's internal power supply voltage measurements the send flag is ON (diagnostic value).	BL U.M. V BM AVCC+ 0
Positive supply voltage of analog circuits. Form fields when the data on the card's internal power supply voltage measurements the send flag is ON (diagnostic values).	BN U.M. V BO AVCC- 0
Negative supply voltage of the analog circuits. Form fields when the data on the card's internal power supply voltage measurements the send flag is ON (diagnostic values).	BP U.M. BQ BATT1 V
Voltage measured on the battery B1 (NOT rechargeable battery). Fields when the data on the card's internal power supply voltage measurements the send flag is ON (diagnostic values).	BR U.M. V BS BATT2 V 0
Voltage measured on the battery B2 (or rechargeable battery). Form fields when the data on the card's internal power supply voltage measurements the send flag is ON (diagnostic values).	BT U.M. % BU % CARICA BATTERIA
% Battery charge. Form fields when the data on the card's internal power supply voltage measurements the send flag is ON (diagnostic values).	0

Example: Download Sensor Verify

The converter must comply with the following conditions to download the file "STESTLOG.CSV":

- ❑ The option SDC/RTC activated by the manufacturer
- ❑ The option "BIV" activated by the manufacturer
- ❑ The function "Sens. verify" on the menu "Sensor" activated
- ❑ It has to be connected to the power supply.

Once these conditions are respected, the instrument automatically performs a test of the sensor operating parameters every hour and fills out a line of the "STESTLOG.CSV" file; if you want to manually compile a line of the "STESTLOG. CSV" file, just start the "sens.verify" command on the "Diagnostic" menu or through the "SVERC" Mcp command.



To download all sensor verification files of today's day to a specific folder, set the following parameters as follows:

Data source: Sensor verfify

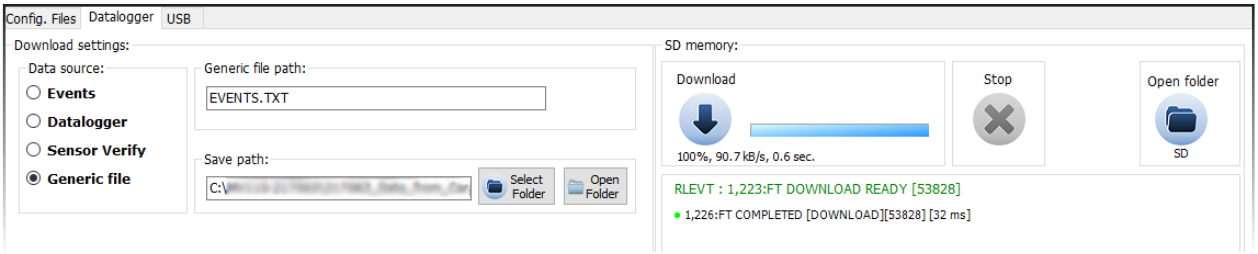
When: Today

Today: All

Save path: C: / .....

Once the parameters have been set, click the Download button.

Esempio: Download Generic File



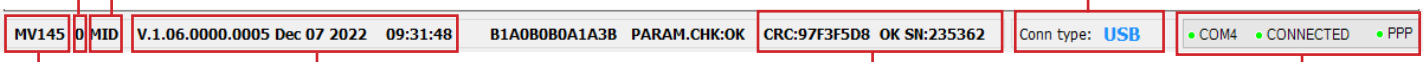
This function allows you to select a file contained in the SD memory of the converter and download it.

In the "Generic file path" section indicate the name of the file contained in the SD and indicate the saving path of the file in "Save path". Once these values are set, proceed with the download of the file by clicking on the "download" button.

AREA 6

This section of the Mcp software displays the following data:

- ❑ 0 = board revision 0
- ❑ 1= board revision 1
- ❑ not avaiable on old firmware
- ❑ visible only if the istrument is certified MID
- ❑ type of connection selected

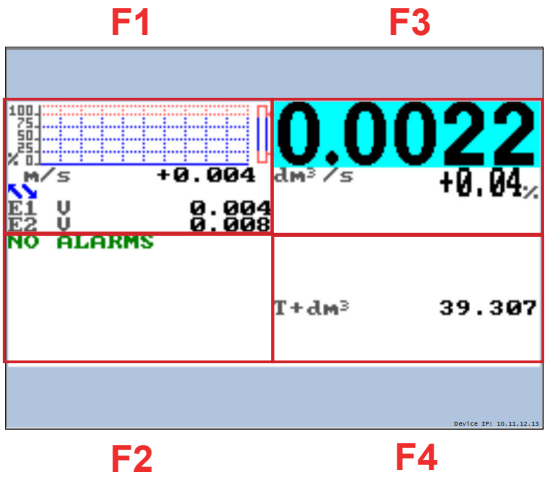


- ❑ Converter model
- ❑ V.0.00.2004 Converter Firmware Version
- ❑ 005: Converter data table
- ❑ Dec..: date and time of firmware creation
- ❑ ABC... Hardware Code
- ❑ SN: serial number
- ❑ Connecion port Com..
- ❑ State of connection
- ❑ PPP Comunication protocol

AREA 7

The virtual display is shown in this area of the Mcp software. For setting the colors see pag. 8

This screen is displayed when the converter power supply is absent.
Connect the device to the power supply to use the Mcp program.

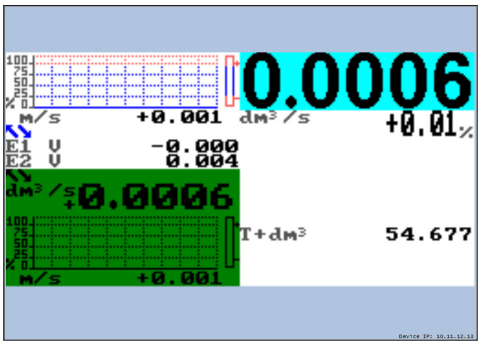


The virtual display is divided into 4 sections. In each of them there are different parameters set in the converter

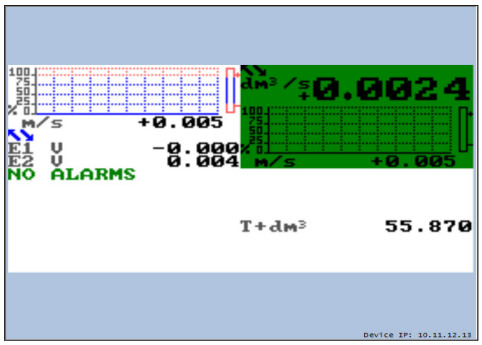
- F1 presents the diagram indicating the instantaneous flow rate variation and the relative active values in the converter.
- F2 Shows the list of alarms present in the system if active in it.
- F3 indicates the value of the instantaneous flow rate and the unit of measurement associated with it.
- F4 Shows the list of active totalizers in the converter.

Pressing the F1 or F2 or F3 or F4 keys the real display is shown in the virtual one. In fact, depending on the key pressed, the real display will be shown.

Example: clicking F2



Example: clicking F3

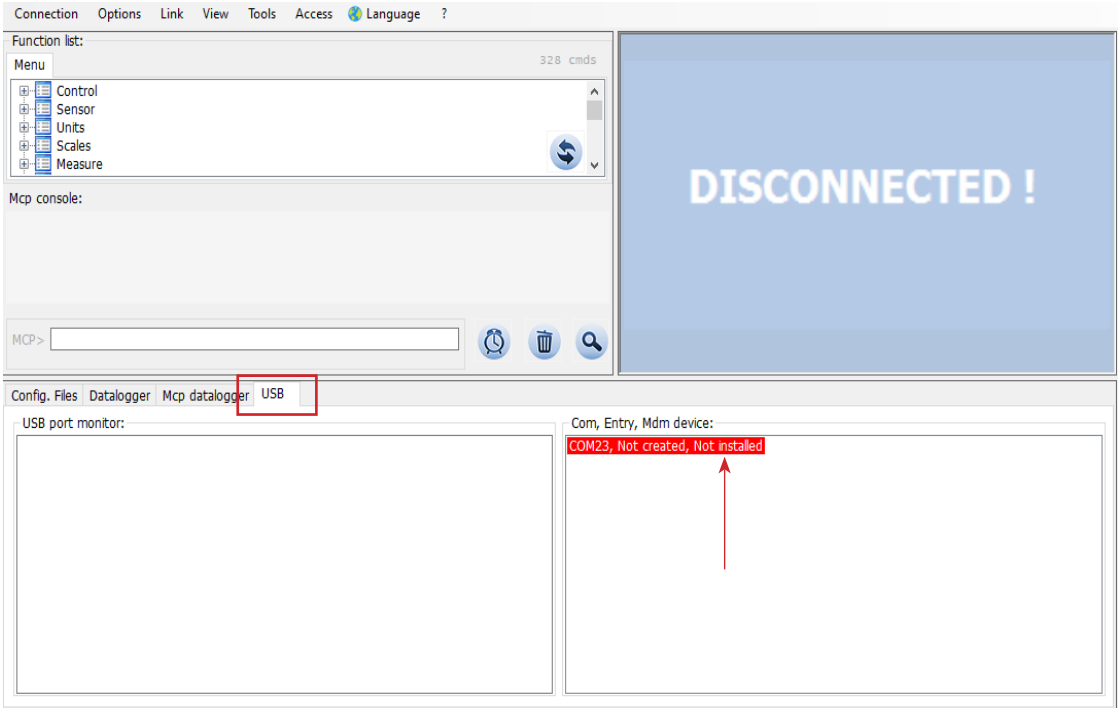


To handle the actual display by the PC keyboard follow the meaning of the buttons shown in the table:

KEYS CONVERTER KEYBOARD	KEYS PC KEYBOARD
ent	ENTER ESC
del esc	ENTER ESC LONG PRESS
↑	↕
→	↔
↓	↕ LONG PRESS
←	↔ LONG PRESS

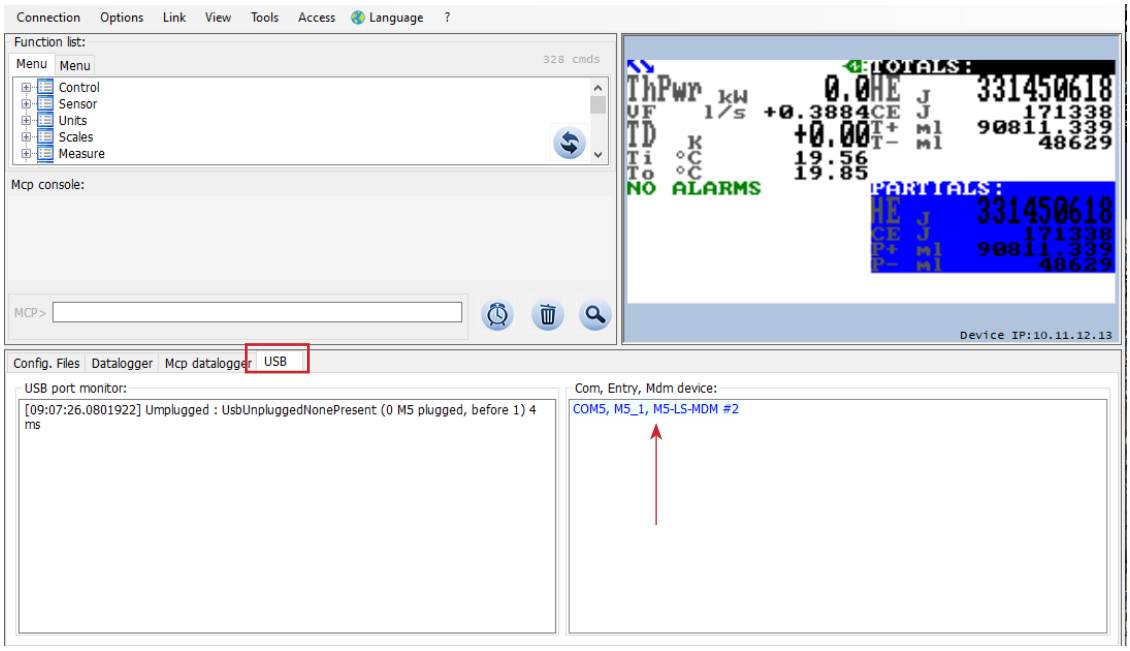
TAB USB

If the driver has not been installed on the specified COM port, the port is shown in red, as illustrated in the image below.



If, instead, the COM port is installed, it is displayed in blue, as shown in the image below.
Specifically:

- ❑ COM5 is the virtual USB COM port.
- ❑ M5_1 is the RAS connection associated with the COM port.
- ❑ M5-ls-MDM #2 is the modem driver associated with the current connection.

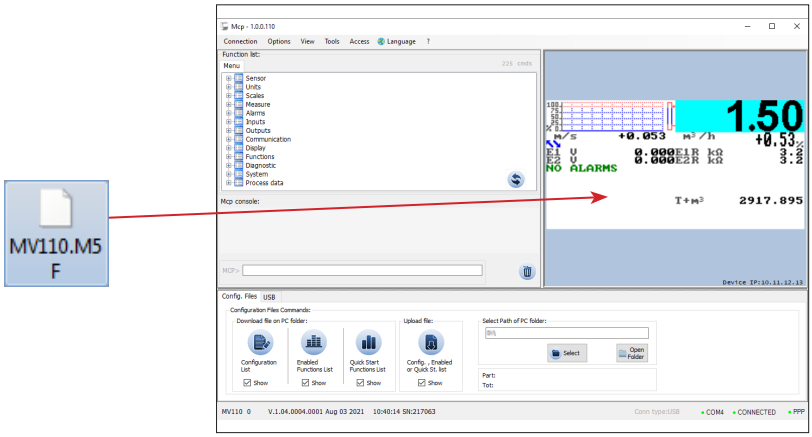


The box on the left, "USB Port Monitor," is a log that shows when the USB cable is connected or disconnected.

MANUAL UPDATE OF THE CONVERTER FIRMWARE

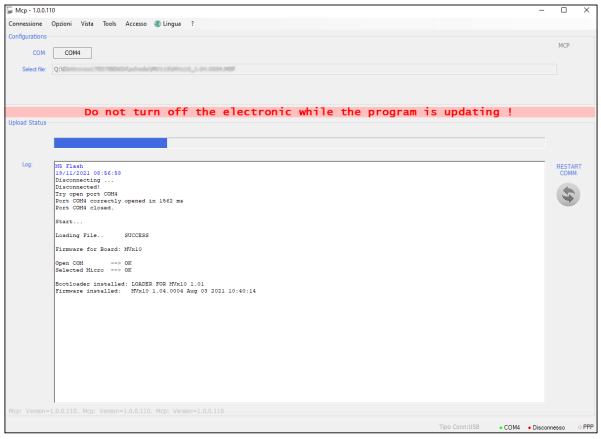
- ❑ Dawnload the file with the .M5F extension
- ❑ Move the downloaded file to the desktop
- ❑ Start the Mcp program
- ❑ Connect the converter to the PC

❑ Drag-and-drop the firmware file as shown in the following figure:

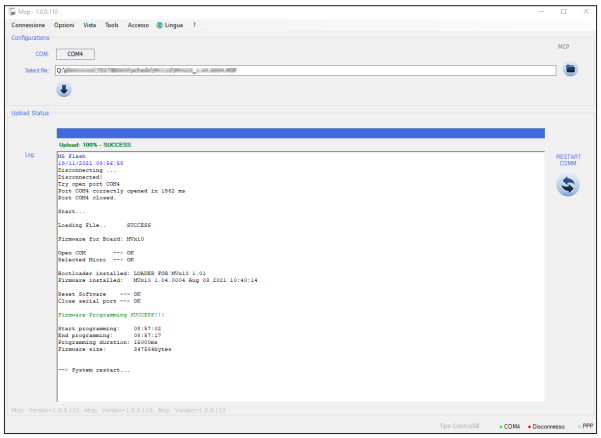


If the converter ISN'T equipped with SD card

❑ The following screen for firmware update starts and is displayed automatically.

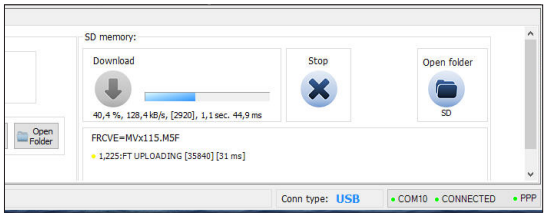


❑ At the end of this procedure, press the “restart comm” Key which restarts the converter and the Mcp software.

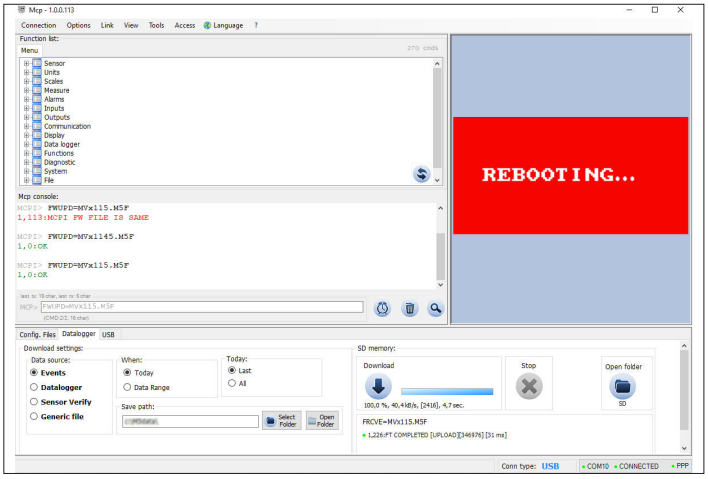


If the converter IS equipped with SD card

- ❑ The firmware download starts and MCP sends automaticallly some commands to the converrter



- ❑ At the end of the procedure, the converter restarts automatically



MANUAL REVIEW

REVIEW	DATE	DESCRIPTION
MAN_MCP_EN_IT_IS_R03	17/09/2020	Texts and traductions update
MAN_MCP_EN_IT_IS_R04	03/12/2021	Manual update following the software update
MAN_MCP_EN_IT_IS_R05	22/12/2022	Manual update following the software update
MAN_MCP_EN_IT_IS_R06	12/01/2025	Added USB tab section

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